

Laxatives & Cathartics

*A complete clinical-judgment guide to the eight laxative classes –
mechanism, monitoring, holds, traps, and the one decision that protects
every patient.*

• DRUG CLASS · LAXATIVES • SYSTEM · GASTROINTESTINAL • 10-SECTION FRAMEWORK
• NCJMM ALIGNED

01 Drug Overview – Why we give it

— Key Indications

- Acute or chronic **constipation**
- **Bowel prep** before colonoscopy, surgery, imaging
PEG · Mg citrate
- **Prevent straining** – post-MI, post-op, postpartum, hemorrhoids,
↑ ICP, glaucoma docusate
- **Opioid-induced constipation** senna + docusate
- *Hepatic encephalopathy* – lactulose traps ammonia ($\text{NH}_3 \rightarrow \text{NH}_4^+$)
- Toxin / parasite removal (rare – stimulants, saline)

— High-Yield Clinical Use

- **Docusate** = softener of choice when straining must be avoided
- **Lactulose** = a GI drug used *neurologically* – lowers ammonia in cirrhosis
- **PEG (MiraLAX, GoLYTELY)** = gold standard for colonoscopy prep
- **Methylnaltrexone** = opioid-induced constipation without reversing analgesia

Remember

Lifestyle first – fiber 20–35 g/day, fluids 2–3 L/day, and activity beat any pill.

02

Mechanism of Action – Simplified

Bulk-forming → absorb water in intestine → ↑ stool bulk & soft mass → stretch bowel wall → peristalsis

Stool softener → ↓ surface tension → water + fat mix into stool → softer, easier to pass

Osmotic → non-absorbable sugars/salts pull water into lumen → ↑ intraluminal volume → peristalsis

Lactulose (special) → colon bacteria → lactic/acetic acid → $\text{NH}_3 \rightarrow \text{NH}_4^+$ (trapped) → excreted in stool

Saline (Mg, Na phosphate) → strong osmotic pull → rapid, watery evacuation

Stimulant → directly irritate myenteric plexus → ↑ peristalsis + ↓ water absorption

Lubricant (mineral oil) → coats stool & intestinal wall → prevents water reabsorption

Lubiprostone → activates Cl^- channels in intestine → ↑ fluid secretion → motility

Methylnaltrexone → blocks peripheral μ -opioid receptors in gut → reverses opioid constipation *without* crossing BBB or blocking analgesia

03

Therapeutic Effects – How you know it's working

- Formed, soft bowel movement **without straining**
- Return of regular bowel pattern (patient-specific, not daily)
- Relief of abdominal discomfort / bloating
- **Clear, yellow-tinged rectal effluent** before colonoscopy
- **Lactulose**: 2–3 soft stools/day **AND** ↓ ammonia, ↑ LOC in hepatic encephalopathy
- Active bowel sounds return post-op
- ↓ PRN stimulant use once bulk + fluids + activity are optimized

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Side Effects & Adverse Reactions

● COMMON · USUALLY SELF-LIMITED

- Abdominal cramping, bloating, flatulence
- Nausea
- Diarrhea (dose-related)
- Perianal irritation with frequent use
- Orange/brown urine (senna — harmless)

🚨 SERIOUS · STOP AND NOTIFY

- **Dehydration + electrolyte imbalance** → hypokalemia, hyponatremia → dysrhythmias
- **Hypermagnesemia** (Mg agents + renal impairment) → loss of DTRs, bradycardia, resp depression
- **Bowel obstruction** — bulk-forming with inadequate water
- **Lipoid (aspiration) pneumonia** — mineral oil in dysphagia/bedridden
- **Laxative dependence** + cathartic colon (chronic stimulant abuse)
- **Melanos coli** — brown/black colonic pigment (chronic senna/bisacodyl)
- **Rectal bleeding, severe pain, black tarry stools** → STOP + notify
- **Fat-soluble vitamin deficiency** (A, D, E, K) — chronic mineral oil
- **Acute phosphate nephropathy** — Na phosphate in elderly/CKD/CHF

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Priority Nursing Considerations

— Assess

- Last BM, stool pattern, consistency (**Bristol scale**), frequency
- **Bowel sounds in all 4 quadrants** BEFORE giving
- Abdominal distention, pain, rigidity — rule out obstruction/appendicitis
- Hydration: I&O, skin turgor, mucous membranes
- Current meds (opioids, anticholinergics, Fe, Ca → constipating)

— Monitor

- Vital signs — BP/HR (orthostatic with fluid loss)
- Electrolytes: **K⁺, Na⁺, Mg²⁺, phosphate**
- Renal function: **BUN, creatinine** before Mg/phosphate agents
- Daily weights with bowel prep or chronic use

— Drug Interactions

- Laxatives ↓ absorption of oral drugs within 1–2 hr (**warfarin, digoxin, OCPs**)
- **Stimulants + diuretics** → compounded hypokalemia → **digoxin toxicity**
- **Mineral oil + docusate** → ↑ systemic absorption of mineral oil (don't combine)
- **Bisacodyl + milk/antacids/PPI** → destroys enteric coating → cramping

🚫 HOLD / DO NOT GIVE IF

- Undiagnosed abdominal pain
- Suspected obstruction, ileus, perforation
- Appendicitis / acute surgical abdomen
- Fecal impaction — **enema first**
- Active GI bleed, UC flare, toxic megacolon
- N/V of unknown cause
- **Mg laxatives if CrCl < 30**
- **Mineral oil** if dysphagia, bedridden, age < 6 yr

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Labs & Diagnostics

- **Potassium (K⁺)**: 3.5–5.0 mEq/L — < 3.5 = **hypokalemia** → weakness, U-wave, dysrhythmia
- **Sodium (Na⁺)**: 135–145 mEq/L — monitor with osmotics / bowel prep
- **Magnesium (Mg²⁺)**: 1.5–2.5 mEq/L — ↑ with Mg laxatives in renal pts → loss of DTRs, bradycardia
- **BUN / Creatinine**: check BEFORE Mg or Na phosphate-based laxatives
- **Phosphate**: monitor with OsmoPrep / Fleet — risk of acute phosphate nephropathy
- **Ammonia**: 15–45 mcg/dL — lactulose's goal is to **LOWER** ammonia in hepatic encephalopathy
- **Fecal occult blood (FOB)**: rule out GI bleed before chronic therapy
- **CBC**: anemia may indicate chronic GI loss from stimulant abuse

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Administration & Safety

— Route & Timing

- **PO** — most classes (stimulants typically at bedtime for AM BM)
- **PR** — bisacodyl suppository, glycerin, mineral oil, soap-suds enema
- **PEG prep** — 240 mL q10 min × 4 L · chilled & flavored for tolerance
- **SubQ** — methylnaltrexone

— Key Administration Rules

- **Bulk-forming** → mix in 8 oz water, drink immediately, follow with a **second** glass of water
- **Bisacodyl tabs** → swallow **WHOLE** (enteric-coated); no milk, antacids, PPI, or food within 1 hr
- **Mineral oil** → empty stomach, upright, **NEVER at bedtime** (aspiration risk)
- **Lactulose** → mix with juice/water to mask taste; titrate to 2–3 soft stools/day
- **Senna** → give at bedtime for morning effect (6–12 hr)
- **Methylnaltrexone** → SubQ; patient near bathroom — acts in 30–60 min
- **Lubiprostone** → with food + water; **negative pregnancy test required** in women of childbearing age

⚠ HIGH-ALERT PRECAUTIONS

- **NEVER** crush enteric-coated bisacodyl
- **NEVER** give to a patient with N/V or unexplained abdominal pain
- **Elderly** → start LOW; ↑ fall risk from urgency + dehydration
- **Pediatric** → mineral oil contraindicated < 6 yr; avoid stimulants in young children
- **Pregnancy** — Safe: docusate, psyllium, PEG · Avoid: castor oil (uterine contractions), mineral oil (↓ vit K → neonatal hemorrhage)

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Patient Education

— Lifestyle First — teach BEFORE pills

- ↑ fiber 20-35 g/day
- ↑ fluids 2-3 L/day unless restricted
- Daily physical activity — walking stimulates peristalsis
- Respond to the urge — don't suppress it
- Toilet routine after breakfast (*gastrocolic reflex*)

— Safe Use

- Do NOT use for > 1 week without provider notification
- **Normal = 3/day to 3/week** — daily BMs are not required
- Always take bulk-forming with a FULL glass of water
- Separate laxatives from other oral meds by 1-2 hr
- Brown/orange urine with senna is normal

🚨 CALL PROVIDER / SEEK HELP IF

- Severe abdominal pain, cramping, or rigidity
- Rectal bleeding or black, tarry stools
- No BM after 3 days of use
- Persistent N/V, muscle weakness, palpitations
- Dizziness on standing (dehydration)

09

NCLEX Test Traps ⚠️

- **TRAP:** Cirrhosis pt has 4 loose stools on lactulose → hold? *WRONG*. 2-3/day is therapeutic; **assess LOC and ammonia** before holding.
- **TRAP:** Confusing **docusate (softener)** vs **bisacodyl (stimulant)**. Post-MI = docusate, NOT a stimulant.
- **TRAP:** Giving **Mg-based** laxative to a renal patient → hypermagnesemia. *Check BUN/Cr first.*
- **TRAP:** Bulk-forming without enough water → *esophageal/bowel obstruction.*
- **TRAP:** Mineral oil at bedtime → *aspiration / lipid pneumonia.*
- **TRAP:** Crushing enteric-coated bisacodyl or giving with milk/antacids → coating destroyed → cramping.
- **TRAP:** Assuming daily BM = normal. Normal range = 3/day to 3/week.
- **TRAP:** Giving laxative for *fecal impaction* without disimpaction/enema first — can cause perforation.
- **TRAP:** Treating lactulose as "just a laxative" — it is the **primary TX for hepatic encephalopathy**.
- **PRIORITY:** Dysrhythmia from hypokalemia > constipation. *Treat the ABC problem first.*

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Memory Boosters

MNEMONIC · SOFT BULK – THE CLASSES

- **S** – Stimulant (senna, bisacodyl)
- **O** – Osmotic (PEG, lactulose, MOM)
- **F** – Fluid/softener (docusate)
- **T** – Topical/lubricant (mineral oil)
- **B** – Bulk-forming (psyllium, methylcellulose)
- **U** – Uses Cl⁻ channels (lubiprostone)
- **L** – Lyses opioid effect in gut (methylnaltrexone)
- **K** – Kicks in fast with saline (Mg citrate)

MNEMONIC · DON'T STRAIN – WHO NEEDS DOCUSATE

- **S** – Surgery (post-op)
- **T** – Thrombosis / MI
- **R** – Rectal (hemorrhoids, fissures)
- **A** – Anticoagulated patients
- **I** – Increased ICP / glaucoma
- **N** – New mom (postpartum)

— Patterns Across the Class

- ALL laxatives → push fluids (unless restricted)
- ALL laxatives → **HOLD if abdominal pain of unknown origin**
- **Mg anything + renal failure = ⚡** (Mg laxatives, Mg antacids, Mg sulfate)
- Stimulants – fast relief, short-term only
- Bulk / softener – slow, safe, long-term

— Quick-Recall One-Liners

- "Water + fiber before the pill"
- "Lactulose lowers ammonia"
- "Mg + kidneys = no"
- "Mineral oil upright, never at night"
- "Bulk without water = blockage"



Clinical Judgment Snapshot · NGN / NCJMM

#1 Priority Risk

Fluid volume deficit + electrolyte imbalance — especially hypokalemia → cardiac dysrhythmia. With Mg-based agents in renal patients → **hypermagnesemia** → cardiac & respiratory arrest. **Antidote: IV calcium gluconate**

FIRST HARM What harms the patient FIRST?

- Laxative given for **undiagnosed abdominal pain or obstruction** → perforation → peritonitis → sepsis
- Bulk-forming without adequate water → **esophageal or bowel obstruction** within minutes to hours
- Mineral oil in bedridden / dysphagic patient → **aspiration** → **lipoid pneumonia**

ACTION First Nursing Action — in order

- 1 **ASSESS** — bowel sounds, abdominal exam, last BM, pain, hydration, current meds
- 2 **VERIFY** — no contraindications (pain, obstruction, N/V, appendicitis, renal failure for Mg)
- 3 **CHECK LABS** — K⁺, Mg²⁺, BUN/Cr as indicated
- 4 **ADMINISTER** — correct route; full water for bulk; upright for mineral oil
- 5 **MONITOR** — stool output, hydration, electrolytes, VS, response
- 6 **EDUCATE** — fiber, fluids, activity first; short-term use; when to notify provider

EMERGENCY NGN "Take Action" Pearls

- **Hypokalemia + digoxin + stimulant laxative** → hold dig, EKG, notify provider, replace K⁺
- **Mg toxicity** → hold Mg laxative, call provider, prepare **IV calcium gluconate** (antidote)
- **Sudden severe abdominal pain after laxative** → hold future doses, NPO, vitals, assess for perforation, notify provider STAT

RX

Most Tested Drugs in This Class – Quick Comparison

CLASS	PROTOTYPE DRUG(S)	ONSET	KEY NCLEX PEARL
Bulk-forming	psyllium (Metamucil), methylcellulose (Citrucel)	12–72 hr	MUST give with full glass of water – obstruction risk if fluid inadequate
Stool softener (surfactant)	docusate sodium (Colace)	12–72 hr	Prevents straining – #1 choice post-MI, post-surgery, hemorrhoids, ↑ ICP
Osmotic	polyethylene glycol (MiraLAX), lactulose, Mg hydroxide (MOM)	30 min – 6 hr	Lactulose traps ammonia → TX for hepatic encephalopathy
Saline	Mg citrate, Na phosphate	30 min – 3 hr	Mg-based AVOIDED in renal failure (hypermagnesemia risk)
Stimulant	bisacodyl (Dulcolax), senna (Senokot)	6–12 hr	NOT for long-term use → dependence + melanosis coli
Lubricant	mineral oil	6–8 hr	Aspiration → lipoid pneumonia ; blocks absorption of A, D, E, K
Cl⁻ channel activator	lubiprostone (Amitiza)	24–48 hr	Category C – pregnancy test required before starting
Peripheral opioid antagonist	methylnaltrexone (Relistor)	30 min – 4 hr	For opioid-induced constipation; does NOT cross BBB → no reversal of analgesia